

REMARKS

Initially, Applicants would like to express their appreciation to the Examiner for the detailed Official Action provided.

Upon entry of the above amendments, the specification will have been amended, claims 1 and 17 will have been amended, and claims 30-41 will have been presented for consideration. Claims 1-41 are currently pending. Applicants respectfully request entry of the present amendments, reconsideration of the outstanding rejections, and allowance of all the claims pending in the present application.

In the Advisory Action dated May 12, 2004, the Examiner appeared to indicate that the addition of the phrase “with no portion of said coil being located between the tines of said tuning fork” to independent claims 1 and 17 may raise an issue of new matter. However, Applicants submit that such subject matter finds clear support in the disclosure of the present application, which discloses a coil wound around the outside of a tuning fork and not passing between the tines thereof. Note, for example, Figures 1, 2 and 4.

Applicants further note that support for the subject matter of newly presented dependent claims 31 and 37 (i.e., substantially cylindrical coil) can be found throughout the disclosure of the present application, including Figures 1 and 4 (note, for example,

lines 10-12 of page 3). Further, Applicants note that support for the subject matter of newly presented dependent claims 32-35 and 38-41 (directed to specific sensors) can be found at least on pages 14 and 15 of the present specification.

The following comments are directed to the rejections contained in the Final Official Action dated November 4, 2003.

On pages 2 and 3 of the Official Action, claims 1-6, 9, 10, 12-22 and 25-29 were rejected under 35 U.S.C. § 102(b) as being anticipated by HAKAMATA (U.S. Patent No. 5,214,279).

Applicants respectfully traverse the rejection of claims 1-6, 9, 10, 12-22 and 25-29 under 35 U.S.C. § 102(b).

Claim 1, as presently amended, includes, inter alia, "an electrical coil having a substantially linear longitudinal axis within said coil, at least a portion of both tines of said tuning fork being located within said coil and parallel to said axis, with no portion of said coil being located between the tines of said tuning fork".

Claim 17, as presently amended, includes, inter alia, "locating at least a portion of said tines within an electrical coil parallel to a substantially linear longitudinal axis of said coil, with no portion of said coil being located between the tines of said tuning fork, said longitudinal axis of said coil being within said coil".

Applicants submit that HAKAMATA lacks any disclosure of *an electrical coil having a substantially linear longitudinal axis therein*. Further, Applicants submit that HAKAMATA lacks any disclosure of *a pair of tuning fork tines having portions thereof located within such a coil, parallel to the substantially linear longitudinal axis, with no portion of the coil being located between the tines of the tuning fork*.

Applicants note that the embodiment shown in Figure 17 of HAKAMATA, and discussed at column 16, lines 26-68, is the only embodiment which includes a coil which is wound around a tuning fork. However, Applicants note that coil 31S is wound around the tuning fork 30 to form *a curved, U-shaped coil*, as shown in Figure 17. Accordingly, Applicants submit that coil 31S clearly does not include a *substantially linear longitudinal axis therein*.

Further, Applicants note that the tines of tuning fork 30 are not located within coil 31S *parallel to a substantially linear longitudinal axis the coil*. Further still, Applicants note that, since the coil 31S is separately wound around each of the tines of tuning fork 30, it is clear that portions of the coil 31S are *located between the tines of the tuning fork*. As shown, for example, in Figures 1 and 4 of the present application, the tuning fork tines of the present invention are not individually wrapped by a coil, but are instead both located within the coil and parallel to a substantially linear inner longitudinal axis thereof.

Applicants also submit that dependent claims 2-6, 9, 10, 12-16, 18-22 and 25-29, which are at least patentable due to their respective dependencies from claims 1 and 17, for the reasons noted above, recite additional features of the invention and are also separately patentable over the prior art of record.

For example, as shown in Figure 17, it would appear that the coil 31S vibrates with the tine since it is tightly wound there about, rather than the protruding portion vibrating by more than can be accommodated by the coil (claims 4, 20); the coil 31S is clearly rectangular (due to the cross sectional shape of the tines) rather than elliptical (claims 5, 21); and its major axis is not in the vibration plane (claims 5, 21), but instead transverse thereto. In this regard, Applicants submit that column 16, lines 31-32 (which merely states that the coil is wound about the tuning fork) provides no support for the Examiner's position that the coil is elliptical. Further still, it is clear that the tuning fork itself serves as the former for coil 31S (claim 12).

Further, it is not clear that the system shown in Figure 17 includes additional magnetically permeable material for performing the function recited in claims 6 and 22, and, contrary to the Examiner's stated position, iron cores 30F are clearly not permanent magnets (claims 9, 26). Further still, there is no disclosure that the embodiment shown in Fig. 17 includes a sensor to provide a signal indicative of the position of a tine (claims 13, 27), much less the specific sensors recited in claims 14 and 28.

Applicants respectfully submit that the rejection of claims 1-6, 9, 10, 12-22 and 25-29 under 35 U.S.C. § 102(b) is improper at least for each and certainly for all of the above-noted reasons. Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection, and an early indication of the allowance of these claims.

On pages 4 and 5 of the Official Action, claims 7, 8, 11, 23 and 24 were rejected under 35 U.S.C. § 103(a) as being unpatentable over HAKAMATA (U.S. Patent No. 5,214,279).

Applicants respectfully traverse the rejection of claims 7, 8, 11, 23 and 24 under 35 U.S.C. § 103(a).

Initially, Applicants note that claims 7, 8, 11, 23 and 24 are patentable at least due to their respective dependencies from claims 1 and 17 for the reasons noted above.

Applicants also submit that claims 7, 8, 11, 23 and 24 recite additional features of the invention and are also separately patentable over the prior art of record. For example, Applicants submit that there is no teaching in HAKAMATA, nor would it have been obvious in the system of HAKAMATA, to taper the coil according to the deflection curve of the tines (claim 11), or to provide one tine as more massive to remain substantially undeflected (claims 7, 23), or to provide such a more massive tine as tapered to accommodate the deflection of the other tine (claims 8, 24). Applicants submit that such modifications would not have been obvious to one of ordinary skill in the art at least

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because the tines shown in Figure 17 of HAKAMATA are not side-by-side in the same coil. Accordingly, it is clear that spacing during vibration would not have been a concern in the system of HAKAMATA. Applicants further submit that the modifications suggested by the Examiner are clearly the result of impermissible hindsight reasoning, based upon the teachings of the present application, rather than the teachings of the reference itself.

Accordingly, Applicants submit that the rejection of claims 7, 8, 11, 23 and 24 under 35 U.S.C. § 103(a) is improper at least for each and certainly for all of the above reasons. Applicants respectfully request reconsideration and withdrawal of the rejection, and an early indication of the allowance of these claims.

Applicants submit that newly presented claims 30-41 are patentable at least due to their respective dependencies from claims 1 and 17 for the reasons noted above.

Applicants also submit that claims 30-41 recite additional features of the invention and are also separately patentable over the prior art of record. For example, with regard to the current rejections, Applicants submit that there is no disclosure in HAKAMATA of the specific sensors recited in claims 32-35 and 38-41.

SUMMARY AND CONCLUSION

Entry and consideration of the present amendment, reconsideration of the outstanding Official Action, and allowance of the present application and all of the claims therein are respectfully requested and now believed to be appropriate.

Applicants have made a sincere effort to place the present application in condition for allowance and believe that they have now done so.

Any amendments to the claims that have been made in this amendment, which do not narrow the scope of the claims, and which have not been specifically noted to overcome a rejection based upon the prior art, should be considered cosmetic in nature, and to have been made for a purpose unrelated to patentability, and no estoppel should be deemed to attach thereto.

Should there be any questions or comments, the Examiner is invited to contact the undersigned at the below-listed telephone number.

Respectfully submitted,  
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